

Work Order ID 110687 4

110687

Page 1

January-07-14 3:00:40 PM

Item ID: 3 D2500-3-100

Revision ID:

Item Name: Ext'n - I' Beam Web 4"

Start Date: 1/07/14 Start Qty: 6.00

Required Date: 1/07/14 Req'd Qty: 6.00

Reference:

180
167 per
R
A

Accept

N900040100

Setup Start *NS1*

Stop *NS2*

Cust Item ID:

Customer:

Approvals: Process Plan: MS/MLJ Date: 14-01-09 Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start *NR1*

Stop *NR2*

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| Draw Nbr | Revision Nbr | | | | | | | | |
| D2500 | Rev H | | | | | | | | |

100

0.00

100

Purchasing

Purchasing

PURCHASING

Memo

Issue P/O:

22687

- a) Extrude as per Dwg D2500
- b) Material: 6061-T6 (QQ-A-200/8)
- c) Minimum yield tensile strength = 35 ksi
- d) Minimum ultimate tensile strength = 38 ksi
- e) Minimum elongation = 8%
- f) Order at 100" long
- g) Caradon Index Tool # MS-18867 ~~Don't #899105 per chris~~
- h) To be packed per DSK 066
- i) Pull test to ASTM standard B221 required.
- j) Material certification is required

0.00

CD 14101120 167

110

Receive & Inspect for Damage & Mat'l Certs

0.00

110

Packaging

Packaging

Memo

Ensure material certification is attached

0.00

14/02/3 (180)

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

| | | | | | | | | | | | | | | | | | | |
|--|--|--|--------------------------------------|------------------------------------|------------------------------------|--------------------------------------|------------------------------------|------------------------------------|--|----------------------------------|--|------------------------------------|--|--------------------------------|------------------------------------|------------------------------------|-----------------------------------|--|
| Work Order: _____ Part No. _____ NCR No. _____ | DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/> | AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table> | Skid-tube <input type="checkbox"/> | Crosstube <input type="checkbox"/> | Water Jet <input type="checkbox"/> | Engineering <input type="checkbox"/> | Machining <input type="checkbox"/> | Small Fab <input type="checkbox"/> | Prod. Eng. Coord. <input type="checkbox"/> | Quality <input type="checkbox"/> | Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/> | Large Fab <input type="checkbox"/> | Composite <input type="checkbox"/> | Supplier <input type="checkbox"/> | |
| Skid-tube <input type="checkbox"/> | Crosstube <input type="checkbox"/> | Water Jet <input type="checkbox"/> | Engineering <input type="checkbox"/> | | | | | | | | | | | | | | | |
| Machining <input type="checkbox"/> | Small Fab <input type="checkbox"/> | Prod. Eng. Coord. <input type="checkbox"/> | Quality <input type="checkbox"/> | | | | | | | | | | | | | | | |
| Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/> | | | | | | | | | | | | | | | |
| Large Fab <input type="checkbox"/> | Composite <input type="checkbox"/> | Supplier <input type="checkbox"/> | | | | | | | | | | | | | | | | |

| Root Cause | Date | Step | Qty | Description of work order update or non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
|---------------|------|------|-----|---|-------------------|--------------------|-------------|--------------|--------------|
| Design | | | | | | | | | |
| Doc/Data | | | | | | | | | |
| Equip/Tooling | | | | | | | | | |
| Handling/Pre | | | | | | | | | |
| Material | | | | | | | | | |
| Operator | | | | | | | | | |
| Offset/Setup | | | | | | | | | |
| Process | | | | | | | | | |
| Supplier | | | | | | | | | |
| Training | | | | | | | | | |
| Transport | | | | | | | | | |
| Unapproved | | | | | | | | | |

FAULT CATEGORY

| | | | |
|--|--|---|--|
| Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube | General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function | <input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence | <input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other |
|--|--|---|--|

Work Order ID 110687

January-07-14 3:00:40 PM

110687

Page 2

Item ID: D2500-3-100

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Ext'n - 'I' Beam Web 4"

Start Date: 1/07/14 Start Qty: 6.00

6

Cust Item ID:

Required Date: 1/07/14 Req'd Qty: 6.00

6

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start *NR1*

Stop *NR2*

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|--------------------------------|--|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| 120 | QC6- Inspect dimensions to drawing | 0.00 | | | | | | | |
| *120* | | | | | | 167 | | | WML 14-02-03 |
| QC | Memo | 0.00 | | | | | | | |
| Quality Control | Check Pull test per Dwg D2500 for compliance page attached. Check hardness with Webster tester | | | | | | | | |
| 130 | Identify as per dwg & Stock Location: <u>Book Hall</u> | 0.00 | | | | | | | |
| *130* | | | | | | | | | |
| Packaging | Memo | 0.00 | | | | | | | |
| Packaging | | | | | | | | | |
| 140 | QC21- Final Inspection - Work Order Release | 0.00 | | | | | | | |
| *140* | | | | | | | | | |
| QC | Memo | 0.00 | | | | | | | |
| Quality Control | | | | | | | | | |

80 Pcs.
167 14-02-04 DEC

ML5 14-02-05

14-02-04

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

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|--|--|--|--------------------------------------|------------------------------------|------------------------------------|--------------------------------------|------------------------------------|------------------------------------|--|----------------------------------|--|------------------------------------|--|--------------------------------|------------------------------------|------------------------------------|-----------------------------------|--|
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| Root Cause | Date | Step | Qty | Description of work order update or non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
|--|------|------|-----|---|-------------------|--------------------|-------------|--------------|--------------|
| Design <input type="checkbox"/> | | | | | | | | | |
| Doc/Data <input type="checkbox"/> | | | | | | | | | |
| Equip/Tooling <input type="checkbox"/> | | | | | | | | | |
| Handling/Pre <input type="checkbox"/> | | | | | | | | | |
| Material <input type="checkbox"/> | | | | | | | | | |
| Operator <input type="checkbox"/> | | | | | | | | | |
| Offset/Setup <input type="checkbox"/> | | | | | | | | | |
| Process <input type="checkbox"/> | | | | | | | | | |
| Supplier <input type="checkbox"/> | | | | | | | | | |
| Training <input type="checkbox"/> | | | | | | | | | |
| Transport <input type="checkbox"/> | | | | | | | | | |
| Unapproved <input type="checkbox"/> | | | | | | | | | |

FAULT CATEGORY

| | | | |
|--|--|---|--|
| Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube | General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function | <input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence | <input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other |
|--|--|---|--|

Ricklist Print

January-07-14 3:00:39 PM

Page 1

Work Order ID: 110687

Parent Item: D2500-3-100

Start Date: 1/07/14

Required Date: 1/07/14

Parent Item Name: Ext'n - I' Beam Web 4"

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP: E02.09.10Added DSK 066 KJ
IPP F 07.07.06 rev G dwg EC IPP Rev:G as per dwg revH DD 10.02.23
verified byEC

| Component Item ID/ Item Name | Replacement Item ID | Mfg/ Purch | Bin Item | Primary Location | Last Location | Route Seq ID | Unit of Measure | Qty on Hand | Qty per Kit | Total Qty | Qty Issued | Date Issued | Status |
|--|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|--------|
| D2500-3-100P Ext'n - I' Beam Web 4" | | Purchased | No | | | 110 | Each | 0.0000 | 1 | 6 | | | |

1/14/14 3 (1150)

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

| | | | | | | | | | | | | | | | | | | |
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| Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/> | | | | | | | | | | | | | | | |
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|---------------|------|------|-----|---|-------------------|--------------------|-------------|--------------|--------------|
| Design | | | | | | | | | |
| Doc/Data | | | | | | | | | |
| Equip/Tooling | | | | | | | | | |
| Handling/Pre | | | | | | | | | |
| Material | | | | | | | | | |
| Operator | | | | | | | | | |
| Offset/Setup | | | | | | | | | |
| Process | | | | | | | | | |
| Supplier | | | | | | | | | |
| Training | | | | | | | | | |
| Transport | | | | | | | | | |
| Unapproved | | | | | | | | | |

FAULT CATEGORY

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|--|--|---|--|
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|--|--|---|--|

SPECIFICATION CONTROL DRAWING

D2500-1-XXX EXTRUSION & D2500-3-XXX EXTRUSION

NOTES:

1) MATERIAL: 6061-T6 ALUMINUM PER QQ-A-200/8 OR AMS-QQ-A-200/8 OR ASTM B221

MINIMUM TENSILE YIELD STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
MINIMUM ELONGATION = 8%

A SAMPLE FROM EACH BATCH WILL BE PULL TESTED TO ASTM STANDARD B221 BY AN APPROVED TESTING FACILITY TO ENSURE THAT THE BATCH MEETS THE ABOVE MINIMUM MECHANICAL PROPERTIES

2) FINISH: N/A

3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED

4) UNITS: INCHES UNLESS OTHERWISE NOTED

5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX

6) IDENTIFICATION: IDENTIFY WITH DART B/N USING FINE POINT PERMANENT INK MARKER

7) WEIGHT: D2500-1 = 0.143 lb/in, D2500-3 = 0.066 lb/in

8) FOR D2500-1 PART NUMBER IS D2500-1-XXX WHERE XXX IS CUT LENGTH (EX. D2500-1-190 IS 190" LONG). D2500-1 EXTRUSION MANUFACTURED FROM:

- A) BON L DIE # 897105 -> PREFERRED
- B) CARADON MIDEAST DIE # PAH-28030
- C) CARADON MTL DIE # MH-18868

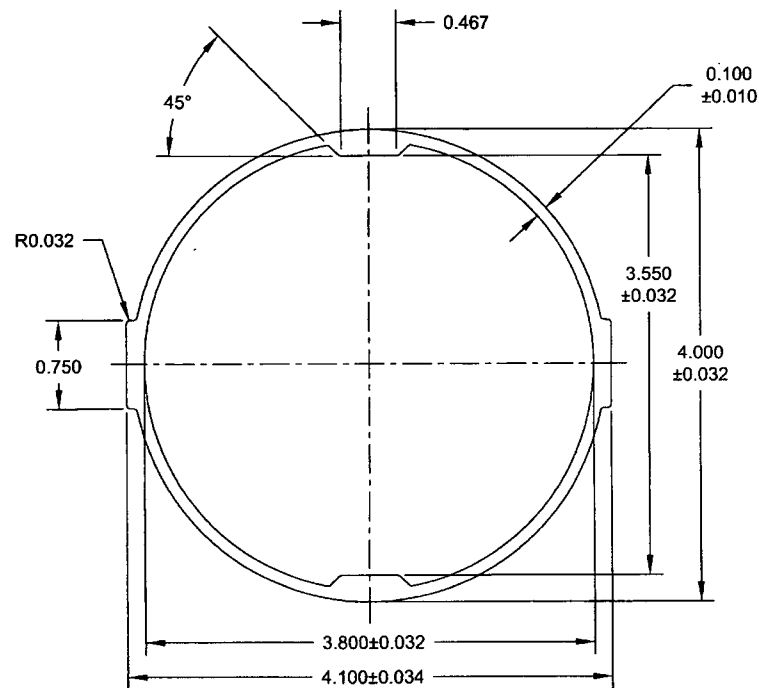
9) FOR D2500-3, PART NUMBER IS D2500-3-XXX WHERE XXX IS CUT LENGTH IN INCHES (EX. D2500-3-100 IS 100" LONG). D2500-3 EXTRUSION MANUFACTURED FROM:

- A) CARADON INDALEX DIE # MS-18867

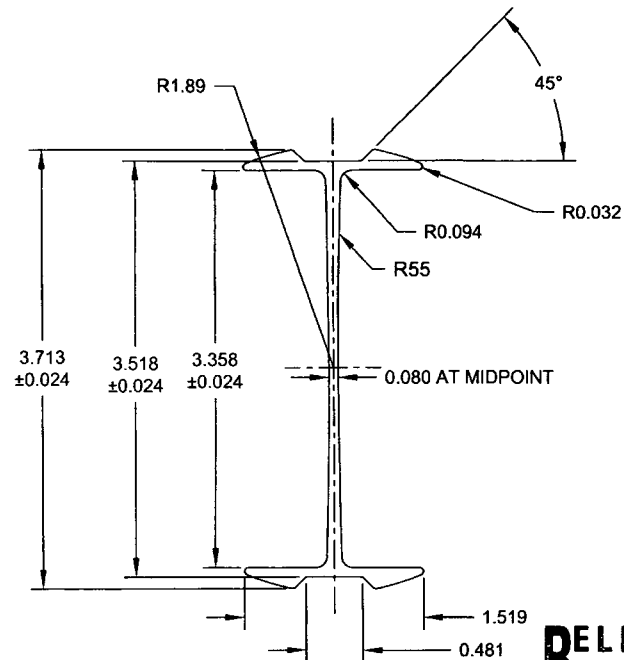
110687
14-01-09

RELEASED
2010-02-02

| | | | |
|--|--|--------------|----------|
| H | REDRAW & REFORMAT DWG; CORRECT BON L DIE # TYPO (ZN B8-1), ADD AMS & ASTM MAT'L OPTION (ZN D8-1), TOLERANCES NOW PER CARADON DWG (SHT 2) | CP | 09.07.16 |
| G | ADD DIE NUMBERS & 'DIMS IN INCHES' NOTES | PH | 07.04.17 |
| F | CHANGE MAT. TO 6061-T6 | DS | 97.09.29 |
| E | CHANGE MATERIAL TEMPER | DS | 96.10.24 |
| D | ADD MATERIAL PROPERTIES | DS | 96.10.07 |
| C | ADD D2500-3 WEB | BW | 96.04.26 |
| B | CHANGE INTERNAL WEB | DS | 96.03.24 |
| A | NEW ISSUE | DS | 96.03.19 |
| REV. | DESCRIPTION | BY | DATE |
| DESIGN | <i>[Signature]</i> | | |
| DRAWN | <i>[Signature]</i> | | |
| CHECKED | <i>[Signature]</i> | | |
| MFG. APPR. | <i>[Signature]</i> | | |
| APPROVED | <i>[Signature]</i> | | |
| DE APPR. | <i>[Signature]</i> | | |
| DATE | 09.07.16 | | |
| DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA | | | |
| DRAWING NO. D2500 | | REV. H | |
| TITLE | | SHEET 1 OF 2 | |
| EXTRUSION | | SCALE | |
| | | NTS | |
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D2500-1



D2500-3

RELEASED
2010-02-02
map

| | | | |
|------------|----------|--|--------------|
| DESIGN | # | DART AEROSPACE LTD | |
| DRAWN | 92 | HAWKESBURY, ONTARIO, CANADA | |
| CHECKED | BT | DRAWING NO. | REV. H |
| MFG. APPR. | | D2500 | SHEET 2 OF 2 |
| APPROVED | | TITLE | SCALE |
| DE APPR. | | EXTRUSION | NTS |
| DATE | 09.07.16 | <small>COPYRIGHT © 1996 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small> | |



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO22687**

Purchase Order Date 1/20/2014

PO Print Date 1/20/2014

Page Number 1 of 1

Order From :

VC-SAP001

SAPA CANADA INC
C/O 912420
P.O. BOX 4090 STN A
TORONTO, ONTARIO M5W OE9
CANADA

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

FAKED
CO 1/14/12

Contact Name

Vendor Phone 800 563 5120

Ship To Contact

Ship To Phone

Ship Via: Yours ppd

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

CAD

FOB

FCA - (Free Carrier)

| Line Nbr | Reference Vendor Part Number Line Comments Delivery Comments | Description/ Mfg ID | Req Date/ Taxable Promise Date | CD | Req Qty/ Unit of Measure | PO Unit Price | Extended Price |
|----------|---|------------------------|--------------------------------------|----|--------------------------------|---------------|-------------------|
| 1 | D2500-3-100P Extrude as per Dwg D2500 REV. H B110687 | Ext'N -I' Beam Web 4" | 2/10/2014 Yes 2/10/2014 | | 167.00 Each | \$14.70 | \$2,455.00 |

Line Total: \$2,455.00

PO Total: \$2,455.00

Note: Pricing listed above is as per contract agreement between Dart Aerospace and the respective manufacturer.
No substitution or deviation without consent.
Certificate of Conformity or Material Certification required **YES** NO
PST# 6122-5207

Change Nbr: 1

Change Date: 1/20/2014

Sapa Extrusions North America
Adresse Postale 325, rue Avro
Pointe-Claire, Québec H9R 5W3
Téléphone: (514) 697-5120
Télécopieur: (514) 694-8310

sapa

P/S# 877692

NOTRE NUMÉRO DE COMM.
OUR ORDER NO

4010983 1

CERTIFIED
ISO 9001:2000

EXPÉDIÉ / SHIP TO

INDICATIONS SPÉCIALES
SPECIAL INSTRUCTIONS

DAIR AEROSPACE LTD
1270 HURONTARIO STREET
HAMMERSLEY, ONT

|K6A1.K7

SAPA G.S.T. REG NO: R857314058

PROJ:

Required Dates:

| | | | | | | | |
|---------------------------|-------------------------------------|--|--|--------------------------------|---------------------------------------|----------------------|--|
| N° DU CLIENT CUST. NO. | T.P.S. G.S.T. | TAXE DE VENTE PROV. PROV. SALES TAX | N° DE COMM. DU CLIENT CUST. ORDER NO. | DATE DE COMMANDE ORDER DATE | NOTRE DATE DE COMM. OUR ORDER DATE | CONDITIONS TERMS | |
| 201355 | XXXXXX | | P022687 | 14/01/20 | 14/01/20 | | |
| VENDEUR SALESMAN | PAYÉ PPD. | PERC. COL. | C.A.D. C.O.B. | F.A.B. F.O.B. | EN BALLOTS BUNDLED AND TAPED | CARTONNÉ CARTONED | CARTONNÉ & INTERCALÉ CARTONED & INTERLEAVED |
| 55 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | | |

[illegible]

We hereby certify that the material supplied meets the chemical properties as published by the Aluminum Association, and requirements of our Quality procedures.

325 rue Avro
Pointe-Claire, QC, Canada H9R 5W3
Téléphone (514) 697-5120
Fac-simile (514) 694-8310

sapa:

Rapport des propriétés mécaniques Mechanical Properties Test Report

Client / Customer : **DART AEROSPACE LTD**
Adresse / Address : **1270 ABERDEEN STREET
HAWKESBURY ONT,
K6A 1K7**

commande Sapa / Sapa order # : **4010983**

bon de commande / Purchase order # : **P022687**

de matrice / Die # : **MS 18867**

Description : **D2500-3**

Alliage & trempage / Alloy & temper : **6061 T6**

Customer Part #: **D2500-3-100**

Contrôle / Control # : **10276-1**

Coulée / Cast # : **58805**

| | Min.requis Min.required | Résultat actuel Actual results |
|--|----------------------------|-----------------------------------|
| Tension ultime Ultimate stress (psi) | 38 000 | 42 638 |
| Contrainte élastique Yield stress (psi) | 35 000 | 39 008 |
| % élongation dans 2" % elongation in 2" | 8 | 14 |
| Dureté Rockwell E (hre) Rockwell E Hardness (hre) | 88 @ 100 | 93 |

Composition chimique typique / Typical chemical composition :

| | Si | Fe | Cu | Mn | Mg | Cr | Zn | Ti |
|-------|-------------|-------------|-------------|-------------|-------------|-------------|----------|----------|
| 6063 | 0,20 - 0,60 | 0,35 Max | 0,10 Max | 0,10 Max | 0,45 - 0,90 | 0,10 Max | 0,10 Max | 0,10 Max |
| 6005 | 0,60 - 0,90 | 0,35 Max | 0,10 Max | 0,10 Max | 0,40 - 0,60 | 0,10 Max | 0,10 Max | 0,10 Max |
| 6005A | 0,68 - 0,72 | 0,15 - 0,27 | 0,08 - 0,12 | 0,20 - 0,24 | 0,48 - 0,52 | 0,03 Max | 0,05 Max | 0,03 Max |
| 6061 | 0,40 - 0,80 | 0,70 Max | 0,15 - 0,40 | 0,15 Max | 0,80 - 1,20 | 0,04 - 0,35 | 0,25 Max | 0,15 Max |
| 6351 | 0,7 - 1,3 | 0,5 Max | 0,10 Max | 0,40 - 0,80 | 0,40 - 0,80 | — | 0,20 Max | 0,20 Max |

Nous certifions que le matériel fourni rencontre les exigences chimiques telles qu'annoncées par la norme ASTM B-221-08 excepté pour la section 8.2 (nombre de spécimen) .

We hereby certify that the material supplied meets the chemical properties as published by the ASTM B-221-08 except for section 8.2 (number of specimen) .

Sincèrement vôtre,
Yours truly,

date : **2014-01-28**



Gilles Pelletier
Technicien de la qualité
Quality technician

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: D2500-3-100 (I beam web)

RECEIVED BY: _____

DATE: 14-02-03

P/O# 22687

QUANTITY ORDERED: 167 / 80

THICKNESS ORDERED: 0.080

SHEET SIZE: 8ft

MATERIAL CERT RECEIVED ASTM B-221-08

QUANTITY RECEIVED: 167

THICKNESS RECEIVED: 0.080

SHEET SIZE RECEIVED: 8ft

| DESCRIPTION | NCR (Check Y/N) | | COMMENTS |
|--|------------------------------------|------------------------------------|---------------|
| SURFACE DAMAGE | Y | <input checked="" type="radio"/> N | |
| INCORRECT FINISH | Y | <input checked="" type="radio"/> N | |
| CORROSION | Y | <input checked="" type="radio"/> N | |
| INCORRECT GRAIN DIRECTION | Y | <input checked="" type="radio"/> N | |
| INCORRECT MATERIAL | Y | <input checked="" type="radio"/> N | |
| INCORRECT THICKNESS | Y | <input checked="" type="radio"/> N | |
| PHOTO REQUIRED | Y | <input checked="" type="radio"/> N | |
| CORRECT MATERIAL | <input checked="" type="radio"/> Y | N | ASTM B-221-08 |
| CORRECT REF # TO LINK CERT | <input checked="" type="radio"/> Y | N | P022687 |
| CORRECT MATERIAL IDENTIFICATION | <input checked="" type="radio"/> Y | N | D2500-3-100 |
| CORRECT M# ON THE MATERIAL | <input checked="" type="radio"/> Y | N | 110687 |
| DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF | Y | <input checked="" type="radio"/> N | |
| DOES THIS REQUIRE AN EXTRUSION REPORT | Y | <input checked="" type="radio"/> N | |

| CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW | | | | | |
|--|-----|-----|-------|-------|--|
| TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING | HRC | HRB | DUR A | DUR D | |
| | | | | | |
| | | | | | |

testers located in the Quality Office

| QC 18 INSPECTION | ENGINEERING SIGNOFF (if required) |
|----------------------------------|-----------------------------------|
| INSPECTED BY: <u>[Signature]</u> | BY: _____ |
| DATE: <u>14-02-03</u> | DATE: _____ |

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

MATERIAL RECEIPT INSPECTION FORM

INSTRUCTIONS FOR INSPECTING BAR, TUBING, ROUND, & SHEET STOCK

- 1- VERIFY STOCK TO DART PURCHASES ORDER
- 2- MEASURE ALL DIMENSIONS FOR EACH PURCHASED STOCK
 - a. WIDTH, THICKNESS, DIAMETER, WALL THICKNESS & LENGTH
- 3- VERIFY CONDITION OF MATERIAL i.e. DAMAGED, CORRODED, etc.
- 4- VERIFY THAT SUPPLIER HAS A NUMBER (HEAT #) ON ITS RECEIVING REPORT TO LINK TO MATERIAL CERTS
- 5- VERIFY MATERIAL CERTS ARE CORRECT TO THE DART PO INSTRUCTIONS
- 6- REMOVE / CUT A PIECE OF MATERIAL FOR SAMPLE HARDNESS TESTING

INSTRUCTIONS FOR INSPECTING SKIDTUBE & STEP EXTRUSION

- 1- VERIFY TO DART SUPPLIED DRAWING
- 2- SAMPLE INSPECT MATERIAL IN BUNDLE TO ENSURE MATERIAL CAN BE RECEIVED INTO DART
- 3- USING PORTABLE HARDNESS TESTER VERIFY HARDNESS OF THE MATERIAL TO THE DRAWING
- 4- VERIFY THAT MATERIAL CERTS MATCH TO WHATS CALLED UP ON THE DART DRAWING

AFTER MATERIAL PASSES INSPECTION

- 5- HAVE DART EMPLOYEES START STOCKING MATERIAL BUT REQUEST MIN **20pcs** FOR FULL INSPECTION
- 6- INSPECT ALL DIMS AS PER DRAWING REQUIREMENTS

INSTRUCTIONS FOR INSPECTING CROSS TUBE MATERIAL

- 1- VERIFY MATERIAL CERTS MATCH THE REQUIREMENTS ON THE DART DRAWINGS
- 2- INSPECT MIN. HALF THE BATCH OF EXTRUSION RECEIVED INTO DART
- 3- INSPECT MATERIAL AS PER THE EXTRUSION REPORT
 - a. WALL THICKNESS USING ULTRA-SONIC IN 4 LOCATIONS
 - b. OUTSIDE DIAMETER HIGHEST/LOWEST BOTH ENDS
 - c. INSIDE DIAMETER HIGHEST/LOWEST BOTH ENDS
 - d. STRAIGHTNESS @ CENTER OVER 12" SPAN
 - e. WALL THICKNESS USING TUBE MICROMETER HIGHEST/LOWEST BOTH ENDS
- 4- IDENTIFY EACH TUBE IN SEQUENCE OF INSPECTING (TUBE 1, TUBE2.....) AND W/O# AND PO#
- 5- RECORD ALL FINDINGS ON EXTRUSION REPORT

IF ANY QUESTIONS PLEASE SEE QC COORDINATOR BEFORE GOING FURTHER